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REMARKS:

"Amended Claims" 1-9 are pending.

With this Amendment, applicants have eliminated all multiple dependencies to conform the claim dependencies to Patent Office rules and to avoid the need for having to pay a multiple dependency surcharge.

In addition, the specification has been amended to place it in conventional U.S. Patent Office format.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 415-576-0200.

Respectfully submitted,



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MARKED-UP VERSION OF THE CHANGES TO THE SPECIFICATION

Page 1, paragraph beginning at line 6:

--BACKGROUND OF THE INVENTION

The invention relates to a device for protecting electronic circuitry and/or an attached electric appliance or device against unacceptably high electric energy pulses.--

Page 1, paragraph beginning at line 22:

--SUMMARY OF THE INVENTION

In view thereof, the present invention seeks to prevent the destruction of protective circuitry by disconnecting the power supply or battery charger when the current or voltage is unacceptably high.--

Page 2, paragraph beginning at line 28:

--BRIEF DESCRIPTION OF THE DRAWINGS

An example of the invention is shown in the following drawings:--

Page 3, paragraph beginning at line 1:

--DESCRIPTION OF THE PREFERRED EMBODIMENTS

The components of the protective arrangement are mounted on a printed circuit board 1 made of an appropriate synthetic material such as epoxy resin. Circuit board 1 has four current paths 2, 2', 3, 3' which have solder surfaces 4, 4', 5, 5'. Solder surface 4 is for connection to the negative terminal of the power supply or battery charger. Solder surface 4' is for connection to the negative terminal of the electronic appliance circuitry. Correspondingly, solder surfaces 5, 5' are connected to the positive sides of the power supply or battery charger and of the electronic appliance circuitry, respectively. The other ends of current paths 2, 2', 3, 3' have solder surfaces 6, 6', 7, 7'. The surfaces of each pair are spaced apart and positioned beneath connecting points 9, 10 of the protective element, for example a diode 8 which may comprise a suppressor diode. Connecting points 9, 10 of diode 8 are soldered to solder surfaces 6, 6', 7, 7' to enable current flow from current paths 2, 2' and 3, 3' via connecting

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points 9, 10. The solder for diode 8 is a soft solder that is chosen so that it melts at a preselected temperature.--



MARKED-UP VERSION OF THE CHANGES TO THE CLAIMS

3. (amended) Apparatus according to [one of claims 1 to 6] claim 1, characterized by a soldering material for soldering the element (8) which has a defined melting point that is a function of a predetermined, permissible heating temperature.

4. (amended) Apparatus according to [one of claims 1 to 3] claim 1, characterized by a leaf spring (11) which has at least one shoulder (12) that extends through a slot (13) in circuit plate (1) and pushes against the element (8).

5. (amended) Apparatus according to [one of claims 1 to 4] claim 1, characterized in that one end of the leaf spring (11) lies in an edge cutout (14) and lateral sides on the circuit plate (1) and in that the other end has a locking hook (16) which extends through an opening (17) in circuit plate (1).

6. (amended) Apparatus according to [one of claims 1 to 5] claim 1, characterized in that element (8) comprises a suppressor diode which sets a predetermined voltage value.

7. (amended) Apparatus according to [one of claims 1 to 6] claim 1, characterized in that the consumer comprises a storage battery.

9. (amended) Apparatus according to claim[s] 7[or 8], characterized in that the storage battery comprises at least one Li-Ion-cell.



CLAIMS APPENDIX
(current wording of all pending claims)

1. Apparatus for protecting electric circuitry and/or an electric consumer against damage from excessive electric energy comprising a voltage limiting element which has connecting parts which are coupled to current paths of the consumer via soldering surfaces and a spring which subjects the soldering surfaces to mechanical prestress so that, in the event of a loss of the soldering connection, the element is lifted off the soldering surface and separated from the current paths, characterized in that for each of two current paths one conductor (2, 2' and 3, 3' respectively) is provided on a circuit plate (1) which is interrupted by pairs of soldering surfaces (6, 6' and 7, 7' respectively), wherein one of the soldering surfaces is coupled to a current source and the other is connected to the consumer and in that connecting parts (9, 10) of element (8) are soldered together at the pair of soldering surfaces (6, 6' and 7, 7' respectively).

2. Apparatus according to claim 1, characterized in that the conductors (2, 2' and 3, 3' respectively) have solder surfaces (4, 4'; 5, 5') for connection to the current paths and the soldering surfaces (6, 6'; 7, 7') for element (8) are next to each other beneath connecting parts (9, 10) of element (8).

3. (amended) Apparatus according to claim 1, characterized by a soldering material for soldering the element (8) which has a defined melting point that is a function of a predetermined, permissible heating temperature.

4. (amended) Apparatus according to claim 1, characterized by a leaf spring (11) which has at least one shoulder (12) that extends through a slot (13) in circuit plate (1) and pushes against the element (8).

5. (amended) Apparatus according to claim 1, characterized in that one end of the leaf spring (11) lies in an edge cutout (14) and lateral sides on the circuit plate (1) and in that the other end has a locking hook (16) which extends through an opening (17) in circuit plate (1).

6. (amended) Apparatus according to claim 1, characterized in that element (8) comprises a suppressor diode which sets a predetermined voltage value.

7. (amended) Apparatus according to claim 1, characterized in that the consumer comprises a storage battery.

8. Apparatus according to claim 7 characterized in that the protective element and the storage battery are arranged in a housing.

9. (amended) Apparatus according to claim 7, characterized in that the storage battery comprises at least one Li-Ion-cell.